

Fugitive Dust Plan (Operating Program for Fugitive Particulate Matter)

Metal Management Midwest, Inc. d/b/a Sims Metal Management

Shredder/MRP Facility 2500 S. Paulina Street Chicago, IL 60608

November 2017

(Updated 8/2018)



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 2 OF 17

Plan

Contents

1.	Introduction:	3
2.	Description of the Operation:	4
3.	Potential Fugitive Emission Points	5
3	3.1 Vehicle Routes in and out of the facility:	5
3	3.2 Dust Minimization:	5
3	3.3 Vehicle Cleaning Station:	10
4.	Water Truck Path and Schedule	. 11
5.	Times of Increased Fugitive Emissions	. 11
6.	Alternatives to Water Truck	. 12
7.	Recordkeeping	. 12
CIT	ΈΜΛΟ	17

Appendix A – Water Suppression – Daily Schedule

Appendix B - Sweeper Log

Appendix C – Fugitive Dust – Visual Site Inspections

Appendix D – Dust Control BMPs



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 3 OF 17

Plan

1. Introduction:

Keeping potential fugitive dust problems under control is an everyday job. Planning ahead and developing a dust prevention and control plan will assist this site in controlling this issue.

This plan, required per 35 Illinois Administrative Code 212.309, will address the following items:

- 1. A description of the operation at this facility.
- 2. Understanding where potential fugitive emission points are as outlined in a site map.
- 3. A description of:
 - a. vehicle routes in and out of the facility,
 - b. how dust will be minimized during transport,
 - c. measures taken to minimize fugitive dust, i.e., continual maintenance, upkeep of heavy gauged rubber sheeting, conveyor covers, etc.,
 - d. how vehicles are cleaned of loose material before they leave the facility.
- 4. A map showing the path for the water truck and the scheduled times the water truck must be operated.
- 5. A description of how the water truck will be used during times of increased fugitive dust.
- 6. A description of how the facility will suppress fugitive dust when the water truck is inoperable (including periods of inclement weather and equipment malfunction).
- 7. A sample and description of the record keeping system, including the employees and supervisors assigned to each task, which will include:
 - a. An outline for the use of the water truck, in combination with water spray system;
 - b. An outline for the water truck during times of increased fugitive dust (in addition to the minimum required);
 - c. An outline for routine inspections of the facility to ensure there is no visible fugitive dust crossing the property line.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 4 OF 17

Plan

2. Description of the Operation:

Metal Management Midwest's Shredder/MRP facility is a scrap metal recycling operation that purchases, shreds, and ships recyclable ferrous metal products. The facility occupies approximately 10 acres of land, and approximately 28 people are employed at the shredder and MRP.

Materials processed and stored at the shredder are brought into the yard from a variety of sources including peddlers via peddler vehicles and commercial/industrial accounts via MMMI trucks or contract haulers. Peddlers and Semi-Trucks entering the shredder facility must first proceed to a truck scale each equipped with radiation detectors to be weighed and screened for radioactivity.

Trucks are then directed to the appropriate unloading area. Qualified inspectors¹ will inspect all loads for unauthorized materials, as detailed in Sims Metal Management's ("SMM") National Policy on the Acceptance of Inbound Materials. Unauthorized materials discovered during inspections will be grounds for rejection of the load in accordance with MMMI's Inbound Material Acceptance Program.

The shredder produces two streams of material; one is a ferrous product and one is a nonferrous (NF) metal mixed with non-magnetic material from the shredding plant. This material, damp from water application at the shredder, will be loaded into a truck, transported to the adjacent Material Recovery Plant ("MRP") location and temporarily stockpiled. A front-end loader will be used to place the mixed NF material into the MRP batch feeder. The material will then be processed to recover various NF metal products. The NF metal products generated from the MRP process will be sold and the non-metallic residue (fluff), stored in a residue bin, will be transported off-site for disposal.

¹ As of April 2018 three full time inspectors are on duty.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 5 OF 17

Plan

Ferrous and nonferrous material from this facility is shipped directly to mills, mini-mills and smelters for recycling/remelting purposes.

3. Potential Fugitive Emission Points

Areas that pose the potential for fugitive emissions are:

- Shredder and shredder downstream equipment
- MRP equipment
- Roadways
- Material Storage Piles

See Site Map.

3.1 Vehicle Routes in and out of the facility:

Daily vehicle traffic patterns are denoted on the site map with yellow arrows. Alternate routes, denoted in orange arrows, are also depicted on the site map.

3.2 Dust Minimization:

Three methods will be immediately employed to minimize dust at the facility:

- a. SHREDDER AND SHREDDER DOWNSTREAM:
 - SHREDDER:
 - Water is used within the hammermill shredder, through a smart water system, to minimize potential fires as well as potential fugitive emissions that may be generated from the process of shredding.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 6 OF 17

Plan

1. The Smart Water System has a flow-control valve which takes input signals from the amount of amperage the electric shredder motor is drawing. Ordinarily, based on the amperage of the motor, water flow to the shredder will vary. Essentially, the system averages these amperage values to determine the maximum amount of water allowed to pass through the valve. For example, if the mill is running at 75-percent amperage load capacity, the valve allows 75-percent of maximum water through. A second component of the system is compressed air, which is delivered to the nozzle at about 40 psi and serves to atomize the water as it leaves the nozzles.

Water is introduced at four locations: two spray nozzles at the mill box and two nozzles at the 1st transfer conveyor. Water serves to moisten materials in the hammermill for the purpose of reducing dust. Application of water introduces sufficient moisture to keep material damp on the discharge end of the hammermill, but not too wet as to cause material to "stick" to conveyors and disrupt the flow of material.

If there is a malfunction with the water system, the hammermill shredder will not be operated.

Records of water consumption at the hammermill shredder are maintained on the Shredder Daily Production Report.

ii. In 2017 Water sprayers were installed on two of the conveyors -Conveyor #3 and Conveyor #7. Conveyor #3 is the conveyor belt that consolidates materials coming from the two conveyors at the picking station. Conveyor #3 then transfers material to the product stacking conveyor. Thus, the product is wet prior to



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 7 OF 17

Plan

- stacking. Conveyor #7 is the conveyor that discharges lighter weight fluff to a chute; it is dampened prior to entering the chute. *See* Appendix D.
- iii. In 2017 steel plates have been installed over the area where the Under Mill Oscillator (UMO) drops materials onto Conveyer #1 to further reduce particulate matter from leaving the area of the Mill. See Appendix D.
- iv. In 2017 a rubberized mat has been installed over the throat of the mill box to keep particulates from leaving the processing area.
- v. There are enclosure doors on the Under Mill Oscillator that enclose the bottom portion of the mill.
- vi. Three times per operating day, during the supervisor's visual inspection of operation (see section 7.d), if visible fugitive emissions from shredder are noted to be occurring beyond the immediate top of the shredder opening and are observed to be approaching the property boundary, an increase in the amount of water used at the mill will be initiated. This inspection, and any corrective actions, will be logged on the supervisor's visual inspection of operation (a sample of the logging of these inspections is shown in Appendix C).

BMPs AND MAINTENANCE:

- i. Photos of the best management practices to control fugitive emissions at the shredder, including the Under Mill Oscillator steel plates and the downstream, showing all conveyors covered, discharge chutes, and the use of rubber sheeting are attached as Appendix D.
- ii. All conveyor covers, conveyor belt scrapers, discharge chutes and rubber sheeting will be inspected daily. Records will be maintained in the manager's office. Any maintenance or necessary repairs or replacement of these items will be made promptly as necessary.
- iii. Similar BMPs will be installed at the MRP.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 8 OF 17

Plan

SHREDDER DOWNSTREAM:

- i. Conveyor Covers are in place to minimize debris that has the potential to become airborne.
- ii. Conveyor belt scrapers are used to minimize any debris buildup on the conveyors which could also become airborne.
- iii. Discharge Chutes are used at final material discharge points to minimize the potential of cross winds blowing material as it is deposited onto storage areas.
- iv. All conveyor covers, conveyor belt scrapers, and discharge chutes downstream of the shredder will be inspected daily. Records will be maintained in the manager's office. Any maintenance or necessary repairs or replacement of these items will be made promptly as necessary.

b. ROADWAYS:

- Use of the Water Truck
 - The water truck to be used is a Western Truck, model #4864S, Equipment Sins #06 which is owned by Metal Management Midwest.
 - i. Routine Areas:
 - 1. The water truck will make daily rounds in areas marked as "routine" on the site map.
 - ii. More than one water truck is on site. Therefore, if the water truck listed above experiences mechanical issues the following water truck can be used in this area.
 - Alternative Water Truck to be used is a Mack Truck, Model# DM690S, Sims# 69, which is owned by Metal Management Midwest.
 - iii. A log will be maintained of daily watering activities.
- Sweeping:
 - The sweeper that will be used is an Elgin Pelican Sweeper, model:
 Pelican Series P; Sims#10779, which is owned by Metal
 Management Midwest.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 9 OF 17

Plan

- ii. Sweeping of improved surfaces will occur every other day or as needed as determined by the supervisor's visual inspection of operation due to the presence of visible emissions from roadways. Roadways must be watered prior to use of the sweeper.
- iii. A log will be maintained of daily sweeping activities.
- Records of watering and sweeping shall be maintained. Blank copies of each log can be found in Appendices A and B.
- Roadway conditions are continually observed by employees (employees receive training that includes notifying their supervisor if they see that the roadways or storage areas need attention), and during the supervisors visual inspection of operations (three times during an operating day).

c. MATERIAL STORAGE AREAS:

- Water, from the water truck or other water outlets, will be sprayed on material storage areas should it be noted that fugitive emissions are generated from same.
- Material storage areas may include light iron, end of life vehicles (ELVs),
 Unprocessed NF material, and auto shredder residue (ASR).
- Under normal operating conditions material from these areas are routinely moved either through the shredder or MRP, sold to customers, or sent to landfill.
- Records of watering in a material storage area will be noted on the 'Shredder/MRP Roadway Watering Log' found in Appendix A, under the column 'Area Watered'.

d. MRP:

i. NF arriving at the MRP will be sufficiently damp to minimize opportunity for fugitive emissions. This will be noted on the supervisor's visual inspection of operation recordkeeping log.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 10 OF 17

Plan

- ii. Conveyor Covers on any exterior conveyors will be place to minimize debris that has the potential to become airborne.
- iii. Conveyor belt scrapers will be used to minimize any debris buildup on the conveyors which could also become airborne.
- iv. Discharge Chutes will be used at final material discharge points to minimize the potential of cross winds blowing material as it is deposited onto outside storage areas.
 - Conveyor Covers, belt scrappers and discharge chutes will be inspected, and documented, daily as part of the daily plant inspection. The records will be maintained in the manager's office.
- v. The area of Eddy Currents and Sensor Sort platforms will be enclosed to minimize the potential of cross winds blowing material during these operations.
- vi. Fluff material (auto shredder residue material, or ASR) will be stored in a three sided residue bin to prevent fugitive emissions from storage.

3.3 Vehicle Cleaning Station:

A track-out control device, such as rumble strips, will be installed on the north end of the large truck scale in the shredder yard requiring all large vehicles that leave the facility to travel over these strips. We will install these in an effort to knock off any potential buildup of dirt from tires on vehicles. A schedule of an inspection of the track-out device is included on the supervisor's visual inspection of operation log, to assure that at least once per day, this area is inspected.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 11 OF 17

Plan

4. Water Truck Path and Schedule

As described in section 3.2, the water truck will make daily rounds of areas marked as "routine" on the site map. A record, see Appendix A, will be maintained documenting this daily activity. Note: If identified during the supervisor's visual inspection of operations (three inspections per operating day), or if identified by an employee, the water truck will address "non-routine" areas that need attention.

It should be noted that when temperatures approach 32 degrees, adding water to ground surfaces will cause a serious safety hazard to employees, truck drivers and visitors to the site. Therefore the application of water to roadways will need to be curtailed. However, if during the supervisor's inspection visible emissions from roadways are observed when temperatures are below 32 degrees (as per the supervisor's visual inspection of operation recordkeeping log), vehicle speeds will be reduced to minimize fugitive emissions from roads.

5. Times of Increased Fugitive Emissions

At times weather conditions, i.e. high winds or a long stretch of dry weather, or site activities, i.e. facility/equipment maintenance/repair activities or inventory control, may cause an increase in potential for fugitive emissions. To ensure that these conditions are identified and addressed as soon as possible, the following steps will be taken:

- a. The site supervisor, or designee, will make a minimum of three trips throughout the day around the facility to see if any areas need to be addressed with water. These visual inspections will be documented, see Appendix C.
 - One of these inspections will be performed as part of the supervisor's daily plant inspection.
 - Site management will perform these walk around inspections during the times the water truck is not operating.
- A Tool Box Talk will be provided to all employees reviewing the importance of immediately reporting to site management areas of the facility they see as needing



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 12 OF 17

Plan

additional suppressant. Site management will document this notification on the Fugitive Dust – Visual Site Inspection log along with actions taken.

6. Alternatives to Water Truck

In the event that the water truck is compromised, an alternative water truck will be put into service.

7. Recordkeeping

- a. The amount of water consumed in Smart Water System is maintained within the Daily Shredder Production Report.
- b. A log for the times the water truck, in combination with water spray system, must be operated,
 - see Roadway Water Suppression Daily Schedule Appendix A
- c. A log for the sweeping activities, will be maintained,
 - see Roadway Sweeper Log Daily Schedule Appendix B
- d. A log for routine inspections of the facility will help to ensure there is no visible fugitive dust crossing the property line,
 - See Supervisor's Visual Inspection of Operation Appendix C



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 13 OF 17

Plan

APPENDIX A ROADWAY WATER SUPPRESSION – DAILY SCHEDULE

Shredder/MRP Roadway Watering Log

				Date:	Approx amt of water		
		Oper	rator	Area Watered*	applied		
Start Time		-					
End Time	<u> </u>	<u> </u>					
Start Time							
End Time							
Start Time							
End Time							
TUESDAY		Oper	rator	Date: Area Watered*	Approx amt of water applied		
Start Time		Орег	iatoi	Alea Waleleu	аррпеч		
End Time							
Start Time End Time							
Start Time							
End Time WEDNESE)			Date:	Approx amt of water		
WEDINESE		Oper	rator	Area Watered*	applied		
Start Time							
End Time							
Start Time							
End Time		1					
Start Time End Time		1					
THURSDA	Y	!		Date:	Approx amt of water		
	-	Oper	rator	Area Watered*	applied		
Start Time							
End Time							
Start Time							
End Time							
Start Time							
End Time							
FRIDAY			Date:	Approx amt of water			
		Oper	rator	Area Watered*	applied		
Start Time							
End Time							
Start Time							
End Time							
Start Time							
End Time							
SATURDA	Υ		rotor	Date:	Approx amt of water		
Ctaut Ti		Oper	rator	Area Watered*	applied		
Start Time End Time		1					
	I	1					
Start Time							
End Time	<u> </u>	<u> </u>					
Start Time							
End Time	will not be wat	ered if tempor	atures are hel-	ow 32°⊧ as it will create a greater safety hazard.			
	ill note on Visu	al Inspection o	of Operations	log form alternative measures taken			
		ould not allo	w, or require	e, you to sweep.			
Date	Time	Rain/Snow	Below 32°	Other			



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 14 OF 17

Plan

APPENDIX B
ROADWAY SWEEPER LOG

Shredder/MRP Roadway Sweeping Log

Monday		Operator	Date:						
			Area Swept						
Start Time									
End Time									
Start Time									
End Time									
Start Time									
End Time									
Tue	sday	Operator	Date:						
			Area Swept						
Start Time									
End Time									
Start Time									
End Time									
Start Time		1							
End Time									
Wedn	esday	Operator	Date:						
			Area Swept						
Start Time		1							
End Time									
	T	1							
Start Time		4							
End Time									
O T.									
Start Time		4							
End Time		Omanatan	Deter						
Inur	sday	Operator	Date:						
Ctart Time			Area Swept						
Start Time End Time		4							
Ena Time									
Start Time		1							
End Time		+							
Liid Tillie									
Start Time									
End Time		†							
	day	Operator	Date:						
		- Сролино	Area Swept						
Start Time									
End Time		1							
		1							
Start Time									
End Time									
		•							
Start Time									
End Time		1							
		•							

Saturday	Operator	Date:
		Area Swept
Start Time	<u> </u>	
End Time		4
Start Time	1	+
End Time	†	
1		
Start Time		
End Time	<u> </u>	
Please	oo noto ony unuoual conditions th	nat affected you ability to perform this task:
	se note any unusual conditions th	at affected you ability to perform this task.
MONDAY:		
TUESDAY:		
TUESDAT.		
WEDNESDAY:		
THURSDAY:		
FRIDAY:		
SATURDAY:		



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 8/2018) PAGE 15 OF 17

Plan

APPENDIX C – FUGITIVE DUST

SUPERVISOR'S VISUAL INSPECTION OF OPERATION

Fugitive Dust Plan - Visual Site Inspections

Facility: Metal Management Midwest, Inc. - Paulina Street

Three times a day the site supervisor, or his designee, is to walk the site looking for areas that may need additional dust suppression.

On days when air temperatures are < 32F, and fugitive dust emissions are observed on roadways, reduced speeds of traffic in the facility will be in effect, and should be noted on page 2.

Dates:	6/25/2018			6/26/2018			6/27/2018		6/28/2018			6/29/2018			6/30/2018			
	Mon	Monday Tuesday Wednesday Thursday			Friday			Saturday										
#1: Time:		ок	Not OK		OK	Not OK		ок	Not OK		ок	Not OK		ок	Not OK		ок	Not OK
	Roadways			Roadways			Roadways			Roadways			Roadways			Roadways		
	Storage Piles			Storage Piles			Storage Piles			Storage Piles			Storage Piles			Storage Piles		
Area(s) Reviewed:	Equipment			Equipment			Equipment			Equipment			Equipment			Equipment		
	MRP: Material			MRP: Material			MRP: Material			MRP: Material			MRP: Material			MRP: Material	1	
	Dampness			Dampness			Dampness			Dampness			Dampness			Dampness	<u> </u>	
						If	"NOT OK" des	cribe i	ssue not	ed and action	(s) tak	en on ba	ack					
Reviewed by:																		
#2: Time:																		
	Roadways			Roadways			Roadways			Roadways			Roadways			Roadways		
Area(s) Reviewed:	Storage Piles			Storage Piles			Storage Piles			Storage Piles			Storage Piles			Storage Piles		
	Equipment			Equipment			Equipment			Equipment			Equipment			Equipment		
	If "NOT OK" describ						<mark>cribe i</mark>	ssue not	noted and action(s) taken on back									
Reviewed by:																		
#3: Time																		
	Roadways			Roadways			Roadways			Roadways			Roadways			Roadways		
	Storage Piles			Storage Piles			Storage Piles			Storage Piles			Storage Piles			Storage Piles		
Area(s) Reviewed:	MRP: Material			MRP: Material			MRP: Material			MRP: Material			MRP: Material			MRP: Material		
	Dampness			Dampness			Dampness			Dampness			Dampness			Dampness	<u> </u>	
	Track Out Pad			Track Out Pad			Track Out Pad			Track Out Pad			Track Out Pad			Track Out Pad		
	If "NOT OK" describe issue noted and action(s) taken on back																	
Reviewed by:																		
	vee brings additional dust suppressant needs to your attention, please note on back page the issue and actions taken.												•					

f an employee brings additional dust suppressant needs to your attention, please note on back page the issue and actions taken.

Mgr Name:	Date/Time	Issue Noted	Action Taken	Action Assigned to:

(Duplicate this Form as Needed)



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 4/2018) PAGE 15 OF 15

Plan

APPENDIX D

DUST CONTROL BMPs



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 1

Appendix D – Dust Control BMPs



Conveyor Covers



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 2

Appendix D – Dust Control BMPs



Conveyor Covers



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 3

Appendix D – Dust Control BMPs



Conveyor Covers



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 4

Appendix D – Dust Control BMPs



Rubberized Curtains



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 5

Appendix D – Dust Control BMPs



Conveyor Cover

Rubberized Curtains



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 6

Appendix D – Dust Control BMPs



Conveyor Chutes



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | **7**

Appendix D – Dust Control BMPs



Belt scraper



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 8

Appendix D – Dust Control BMPs



Belt scraper into discharge chute

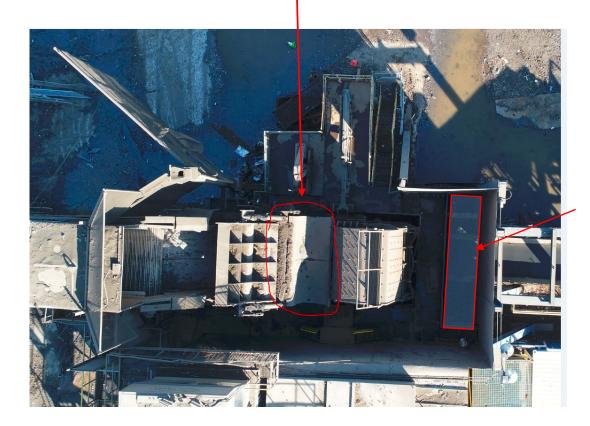


Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 9

Appendix D – Dust Control BMPs

Rubberized Matting placed over the throat of the mill.



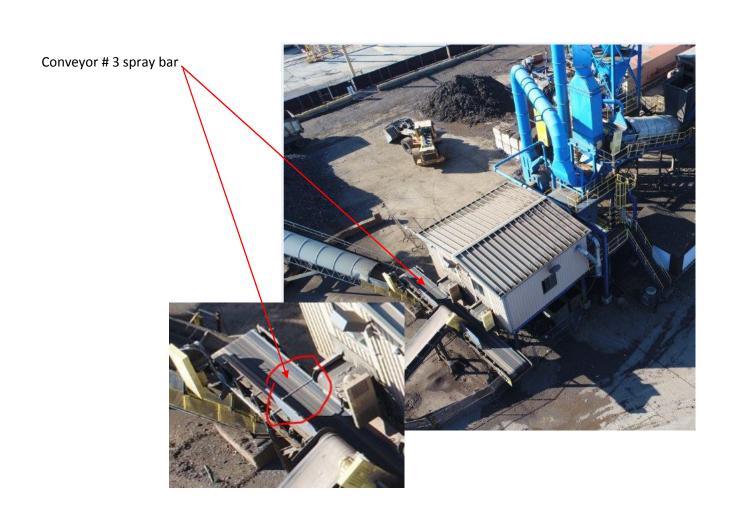
Steel plates placed over the UMO.



Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | 10

Appendix D – Dust Control BMPs





Shredder facility 2500 S. Paulina Street Chicago, IL 60608 2/2018

Page | **11**

Appendix D – Dust Control BMPs



Red arrows indicate approximate location of spray bar and how it sprays onto material on conveyor #7 prior to discharge to chute.



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 4/2018) PAGE 16 OF 15

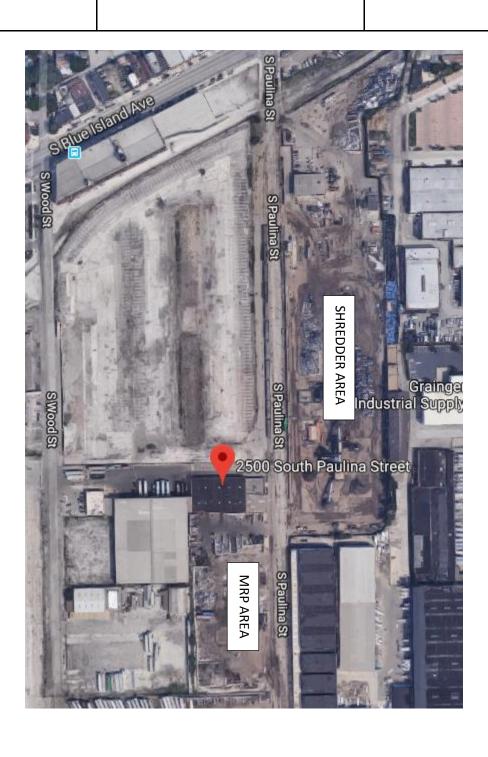
Plan

SITE MAPS - OVERALL VIEW, AND SHREDDER AND MRP DETAIL PLANS



Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 4/2018) PAGE 17 OF 15

Plan





Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 4/2018) PAGE 18 OF 15

Plan

This is a map showing the traffic flow in the Shredder yard.

You will be instructed on the path to take by scale operator and/or material Inspector.



Routine Traffic Path (Large Trucks)

Alt Traffic Path (Large Trucks)

Routine Peddler Traffic Path

Scales

Truck Cleaning Station

Facility Entrance/Exit

The water truck will follow the "Routine" and "Alt traffic" pattern throughout the yard.





Shredder/MRP facility 2500 S. Paulina Street Chicago, IL 60608 11/2017 (Updated 4/2018) PAGE 19 OF 15

Plan

PROPOSED MRP TRAFFIC PLAN

